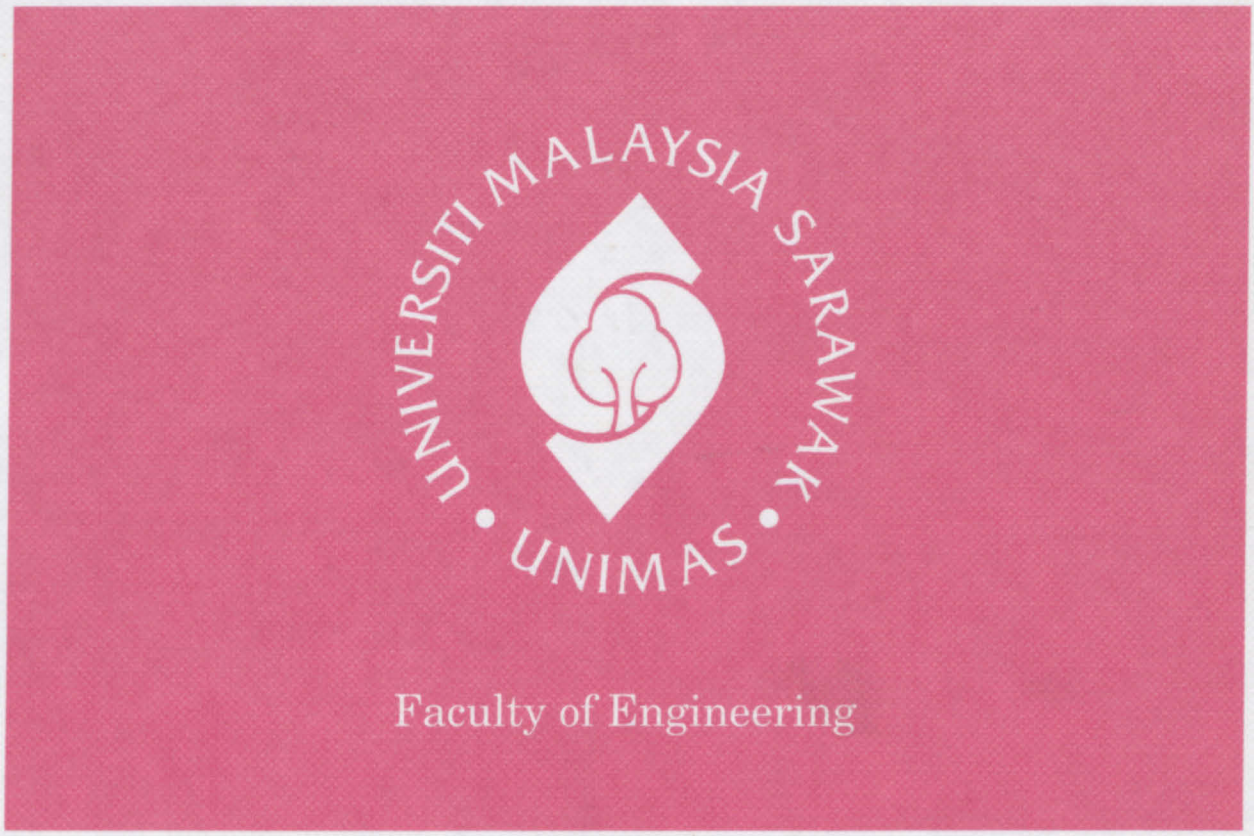

PLANNING ANALYSIS FOR INLAND NAVIGATION DEVELOPMENT IN THE BARAM RIVER USING LOGICAL FRAMEWORK APPROACH

Muhammad Sadli Bin Abdllah

Bachelor of Engineering with Honours
(Civil Engineering)
2006

Universiti Malaysia Sarawak

fk

BORANG PENYERAHAN LAPORAN PROJEK TAHUN AKHIR

Judul: PLANNING ANALYSIS FOR INLAND NAVIGATION DEVELOPMENT IN THE BARAM RIVER USING LOGICAL FRAMEWORK APPROACH

SESI PENGAJIAN: 2002-2006

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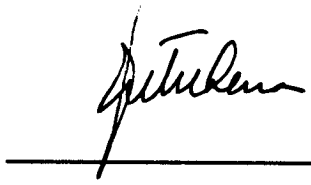
This project report attached here to, entitled "PLANNING ANALYSIS FOR INLAND NAVIGATION DEVELOPMENT IN THE BARAM RIVER USING LOGICAL FRAMEWORK APPROACH" prepared and submitted by Muhammad Sadli bin Abdllah in partial fulfillment of the requirements for the degree of Bachelor of Engineering (Civil) is hereby accepted.



17/05/06

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PLANNING ANALYSIS FOR INLAND NAVIGATION DEVELOPMENT IN THE BARAM RIVER USING LOGICAL FRAMEWORK APPROACH

MUHAMMAD SADLI BIN ABDLLAH

This project is submitted in partial fulfillment of
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Faculty of Engineering
UNIVERSITI MALAYSIA SARAWAK
2006

Untuk mak dan ambok...
adik-adik yang banyak memberi semangat
dan yang tersayang
Terima Kasih atas segalanya

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ABSTRACT

Baram River is one of the 21 main rivers in Sarawak State. Its length is 607 km and navigable up to 371 km, plays an important role in navigation and water transportation in the rural area. However, there are still a few problems occur in the Sarawak State Government, especially in navigation development activity in Baram River. For example, even though there are jetty and wharf at the main town along the river but it still can't support passenger, good and ships capacity that increase day by day. The unsafe condition around the jetties and wharf also contribute to the problems. Miri Port Authorities which operation at Baram River since 2001 has a river depth problem where only 3 meter ship can navigable to the port. It caused decrease of ship passage to the Miri Port. There are several governments and private agencies are involved in developing navigation activities, Integrated Inland Navigation would be introduced. Logical Framework Approach is being develop as an exercise to facilitate workshops for supporting the integrated development and management for Baram River especially navigation. LFA has shown the ability in construction and surveillance a complex and costly project clearly and understandably. This is achieve by structuring the main elements of a project in a matrix, which summarize the project, highlighting logical linkages between intended input, planned activities an expected results and records the underlying assumption.

ABSTRAK

Sungai Baram merupakan merupakan salah satu daripada 21 sungai utama di Negeri Sarawak. Sungai sepanjang 607 km dan boleh dimudiki sejauh 371 km ini memainkan peranan yang penting bagi aktiviti pelayaran dan perhubungan air bagi penduduk kawasan pendalaman. Walaubagaimanapun, masih terdapat masalah-masalah yang masih melanda Kerajaan Negeri Sarawak terutamanya berkenaan dengan pembangunan aktiviti pelayaran di Sungai Baram. Sebagai contoh, walaupun mempunyai jeti dan dermaga di bandar utama sepanjang sungai, tetapi ianya tidak mampu untuk menampung kapasiti penumpang dan barangan yang semakin hari semakin bertambah. Keadaan yang tidak selamat di kawasan jeti dan dermaga juga menyumbang kepada masalah yang dihadapi. Selain daripada itu, Lembaga Pelabuhan Miri yang beroperasi di Kuala Baram sejak 2001 pula, mempunyai masalah kecetekan laluan masuk yang menghadkan laluan kapal yang melebihi 3 meter apungan. Ini mengakibatkan kekurangan kapal yang boleh masuk berlabuh di Pelabuhan Miri. Terdapat beberapa jabatan kerajaan dan agensi-agensi swasta yang terlibat dalam pengurusan membangunkan aktiviti pelayaran. Oleh yang demikian, "Logical Framework Approach" telah dibangunkan dan digunakan dalam bengkel untuk menyokong pembangunan bersepadu aktiviti pelayaran di Sungai Baram. "Logical Framework Approach" telah menunjukkan kebolehannya dalam pembinaan dan memantau sesuatu projek yang kompleks dan kos yang tinggi dan senang difahami. Ini dicapai dengan pengstrukturan elemen utama sesuatu projek di dalam bentuk matrik yang mana dapat memberi diskripsi, mempamerkan hubung kait secara logik di antara input, aktiviti yang dirancang, output dan rekod serta faktor-faktor atau andaian yang perlu bagi sesuatu projek bagi mencapai matlamat yang diharapkan.

LIST OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

DID	-	Department of Irrigation and Drainage
EIA	-	Environmental Impact Assessment
LFA	-	Logical Framework Approach
MOVs	-	Means of Verification
MP	-	Malaysia Plan
PWD	-	Public Work Department
SRB	-	Sarawak River Board

CHAPTER 1

INTRODUCTION

1.0 Background

Since ancient time, the inland navigation in Malaysia has been the arteries of the nation, giving life to various economic and social activities. From the early days when the rivers were the main means of communication and transports to present times when rivers drive huge turbines, river have been synonymous with development. This has been the case with Malaysia where the rivers and inland navigation have become vital arteries in the pulsating development and progress.

Sarawak with a land area of 124450 sq. km has 55 navigable rivers which the state with a combined length of 3300 km. Rivers has always played a prominent role in Sarawakian life. They remain the chief line for communication for much of the population even today, and a majority of settlements, whether sedentary (sitting) or shifting, are located close to these arteries of Sarawak.

The rivers in Sarawak are a major mode of transportation for passengers, goods and logs. The major rivers such as the Batang Rajang and Batang Baram

and their upper tributaries are busy and important highways into the hinterland. Along the Batang Rajang, sea going ships and barges carrying goods, logs and produce constantly ply the river alongside express ferry boats. The river mouths are the economic hubs of the respective catchments while the state capital has also developed around a river estuary.

The main navigable waterways are as follows:

a) Rajang River system (navigable about 570 km.)

b) Baram River system (navigable over 371 km.)

c) Batang Lupar system (navigable over 140 km)

d) Batang Kemena system (navigable over 50 km)

e) Limbang River system (navigable over 80 km)

(See Figure 1.0)

Approximately 3,000 registered vessels of various types and designs (general cargo coasters, coastal and inland passengers express vessel, motor launchers, tugs and barges and multipurpose and specialized crafts engaged in the petroleum industry) work in coastal and inland waterways. There is also an estimated 4,000 unlicensed crafts (long boats, wooden motor launches and outboard motor craft) used mainly by rural and coastal inhabitants. The rivers are also the principle means for log transportation as well as storage (log ponds).

1.1 Physical Condition and Development of Baram River

Baram River is approximately 607 km long and it navigable up to 371 km. The catchments area of Baram River is about 22,325 sq. km and is located in

a tropical rainforest region. The average elevation of the basin is 602 m, with a maximum elevation of 4,833 m. Rainfall in the basin is quite high, averaging 3,225 mm. annually and is spread throughout the year. The river is quite sinuous in a nature, particularly in its lower reaches. Currently Baram River is used for agriculture and aquaculture, industries, recreation and important thing is navigation.

The development that was taken places in the Baram River Basin includes the following:-

i) Navigation

ii) Urban and industrial Development.

iii) Land Development

iv) Tourism Development.

v) Aquaculture Development.

vi) Agriculture Development.

vii) Water Supply Development.

(See Figure 1.2)

1.2 Issue and problem

There are some issues and problem regarding the inland navigation development in the Baram River. The issues and the problems include the following:-

i) River Ecology and Environment.

a) River Bank Erosion

- Undermining of infrastructure.
- Loss of valuable land.

b) Chemical Pollution

- Damages to marine life and environment caused by oil spillage

c) Sedimentation

- Due to Logging activities.
- Reducing effective depth for Navigation.

d) Physical Wastes

- Caused severe hindrance to navigation.
- Impair the aesthetics of the waterways.

ii) Private Jetties

- Dangerous condition to passenger.

iii) Improvement to River Cargo Terminals

- Contribute to the congestion and indiscriminate storage of cargoes on the wharves.

iv) Port and Shipping

- Lack of facilities for maintaining the depth at the port.

v) Planning and Regulation

- Over application (authorities) to build new private jetties.

1.3 Conceptual Framework

A conceptual framework identifies and specifies the different steps to be taken in the process of formulating, analyzing, evaluating and monitoring and presenting alternative strategies. Step in the framework can be taken on the different level of detail. Approaches on different levels of detail can be arranged in logical order of consecutive round of analysis, often including a go-no-go decision after each round.

Framework analysis is meant for an integrated management tool. It is very helpful in supporting planning analysis amongst other for inland navigation development. The final aim of analysis in this respect is to generate quantitative information to enable better decisions on proposed action for inland navigation improvement development.

1.4 Logical Framework Approach

The Logical Framework Approach (LFA) was first adopted by U.S Aid in the early1970s. Since then the LFA has been used by many larger donor organizations, both multilateral and bilateral. The LFA is a management tool that facilitates planning, execution and evaluation of a project. The LFA has a power to communicate a complex and costly project clearly and understandably on one up to five sheets of paper. This is achieved by structuring the main elements of a project in a matrix (the logical framework) which summarizes the project,

highlighting logical linkage between intended inputs, planned activities and expected results and record the underlying assumption. The LFA can be used as a tool to improve project implementation, monitoring and evaluation.

The LFA assumes that development projects are instruments of a change. A project is implemented in order to change a current situation into more desirable situation. A project consists of three elements, an input of resources, the implementation of certain activities, and will result in a number of outputs that are expected to contribute to desired objectives. Because projects are considered to be instruments of change, projects are always geared towards achieving specified objectives. The objectives that a project seeks to achieve relate to the 'improve situation'. In well –designed project the objectives will have been identified and agreed upon by all stakeholder involved in the project.

A logical framework consists of four elements. The first of these elements is called narrative or objectives summary. In the 4 X 4 matrix (see table 1.0) the narrative summary is to be found in the first column on the left. Second column is the Performance indicators or objectives indicators. The third column is mean of verification and the fourth column is an assumption.

1.5 Objectives of this study

This study is aimed to establish an approach and tool for evaluating and monitoring the Inland Navigation Development at Baram River. Specific objectives of this study include the following:-

i) To study the current practice of Inland Navigation Development in Sarawak especially in the Baram River.

ii) To apply Logical Framework Approach as a tool for improving Inland Navigation condition and Integrated Water Resources Management in the Baram River.

1.6 Scope of the study

To examine and analyze the current issues and problem, in relation to:

i) Institutional as part for coordination.

ii) Logical Framework Approach Development for improving the Inland Navigation condition at Baram River especially due to current and proposed navigation facilities and other water resources infrastructure development.

iii) Integrating the operation of existing facilities and future infrastructure development.

iv) To develop the first draft of LFA based on the available study reports and information on Inland Navigation in the Baram River.

Table 1.0: The Logical Framework

Project Description (Objective Summary)	Indicators	Means of Verification	Assumptions
Goal (Development Objectives) The higher level objectives towards which the project expected to contribute.	Measures (direct or indirect) to verify to what extent the development objectives is fulfilled	Which database is available or which documents have been drawn up or can be obtained elsewhere to prove that the development objective has been achieved.	Important events, conditions or decisions necessary for sustaining objectives in the long run
Purpose (Immediate Objectives) The first effects which is expected to be achieved as the result of the project	Measures (direct or indirect) to verify to what extent the immediate objective are fulfilled.	Which database is available or which documents have been drawn up or can be obtained elsewhere to prove that the immediate objective has been achieved	Important events, conditions or decisions outside the control of the project which must prevail for the development objectives to be attained.
Outputs The results that the project management should be able to guarantee	Measures (direct or indirect) to verify to what extent the outputs are produced	Which database is available or which documents have been drawn up or can be obtained elsewhere to prove that the projects outputs has been achieved	Important events, conditions or decisions outside the control of the project management necessary for the achievement of the immediate objective.
Activities The activities that have to be undertaken by the project in order to produce the outputs	**Inputs** Goods and services necessary undertake activities.	Available records etc for costs entailed consumption of materials use of equipment, inputs of personnel, etc	Important events, conditions or decisions outside the control of the project management necessary for the production of the outputs.

Figure 1.0: Important River In Sarawak